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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,065	07/31/2003	Douglas Michael Boecker	AUS920030466US1	3523

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EXAMINER	
FRANKLIN, RICHARD B	

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/631,065	BOECKER ET AL.	
	Examiner	Art Unit	
	Richard Franklin	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

ff 3M fleming

FRITZ FLEMING
PRIMARY EXAMINER 5/19/2006
GROUP 2100
AU2181

Supervisory

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 20 have been examined.

Response to Arguments

2. Applicant's arguments with respect to claims 1 - 20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 8 – 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 8 recites the limitation "the device driver layer" in lines 3 and 5 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to refer to “a device driver” recited in line 2 of the claim. The “a device driver” limitation from line 2 of the claim has been interpreted to recite “a device driver layer” to be consistent with claim 1.

5. Claim 8 recites the limitation "at least one device driver" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the

limitation is referring to the "device driver" recited previously in the claim or a new device driver.

The Examiner has interpreted the limitation to refer to a new device driver because the "a device driver" limitation from line 2 of the claim has been interpreted to recite "a device driver layer" as previously stated.

6. Claim 11 recites the limitation "the means for determining whether the end device is locked" in lines 1 and 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to refer to "the device driver layer" of claim 8.

7. Claim 12 recites the limitation "the means for locking the end device" in lines 1 and 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to refer to "the device driver" of claim 8.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 8 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Since Applicant has not provided an explicit and deliberate definition in the specification or explicitly stated in the claim that "a device driver", "device driver layer", "application", and "application layer" is the combination of software code and a computer readable medium in which the software is stored, the claim when taken as a whole is believed to reasonably be interpreted as software, per se, which is non-statutory subject matter. However, even if the claim or specification explicitly stated the combination of software code and a computer readable medium in which the software is stored, it would still not include patent-eligible subject matter because the specification has laid out a computer readable medium to include "transmission-type media, such as digital and analog communications links, wired or wireless communications links using transmission forms, such as, for example, radio frequency and light wave transmissions" (Specification; Page 14). This type of computer readable medium covers an embodiment that fails to include patent-eligible subject matter, since signals waves or other forms of energy are not deemed to fall within a statutory category of invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,401,110 (hereinafter Freitas) in view of Systems Architecture 2nd Edition (hereinafter Burd).

As per claims 1, 8, and 16, Freitas teaches a method for performing bus arbitration, the method comprising receiving, by an adapter (Freitas; Figure 1B Items 154 and 156) from a host (Freitas; Figure 1B Item 152), a request to perform a device access operation (Freitas; Col 7 Lines 37 – 38) on an end device (Freitas; Figure 1B Items 160, 162, and 164) on a bus (Freitas; Figure 1B Item 158); determining, by the adaptor, whether the end device is locked (Freitas; Figure 4 Item 407, Col 7 Lines 38 – 45); and responsive to the end device not being locked, locking (Freitas; Figure 4 Items 408 and 410, Col 7 Lines 38 – 45, Col 8 Lines 1 – 12), by the adaptor, the end device and performing the device access operation (Freitas; Figure 4 Item 412).

Freitas does not teach wherein the adaptor is a device driver layer, the host is an application included in an application layer, and the device driver layer includes a device driver that is in communication with the end device utilizing the bus.

However, Burd teaches a computer architecture and operating system where an application program (host) must use a device driver in a kernel layer (device driver

layer) to access a hardware device (Burd; Figure 3-7; Pages 73 – 74 "Operating System Model and Functions"). The device driver is contained in a kernel layer and is used to interface with the hardware device (Burd; Pages 76 – 77 "Kernel").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Freitas to include the application and device driver layers because using the layers allows for a degree of modularity and hardware independence (Burd; Pages 76 – 77 "Kernel").

As per claims 2 and 9, Freitas obviously teaches wherein the device access operation is one of a read operation or a write operation. Freitas obviously teaches this because Freitas teaches that the devices are storage devices (Freitas; Figure 1B Items 160, 162, and 164). Access operations on a storage device obviously includes read and write operations because read and write operations are commonly used in the art to access storage devices.

As per claims 3 and 10, Freitas also teaches that if the device is locked, denying the device access operation (Freitas; Col 2 Lines 31 – 48, Col 11 Line 65 – Col 12 Line 10)

As per claims 4, 11, and 17, Freitas also teaches wherein determining whether the end device is locked includes determining whether an address of the end device is found in a list of occupied end devices (Freitas; Col 8 Lines 35 – 39).

As per claims 5, 12, and 18, Freitas also teaches wherein locking the end device includes placing a device address at the end of a list of occupied end devices (Freitas; Table 1, Col 8 Lines 35 – 38).

As per claims 6, 13, and 19, Freitas also teaches unlocking the end device when the device access operation has completed (Freitas; Figure 4 Item 422, Col 7 Lines 64 – 66).

As per claim 7, 14, and 20, Freitas also teaches wherein unlocking the end device includes removing the device address from the list of occupied end devices (Freitas; Table 1, Col 10 Lines 18 – 20).

As per claim 15, Freitas teaches a bus (Freitas; Figure 1B Item 158); at least one end device connected to the bus (Freitas; Figure 1B Items 160, 162, and 164); at least one host (Freitas; Figure 1B Item 152); an adapter (Freitas; Figure 1B Items 154 and 156) that communicates with the at least one end device utilizing the bus; wherein the adapter receives a request from the at least one host to perform a device access operation on the at least one end device (Freitas; Col 7 Lines 37 – 38) from within the at least one end device on the bus, determines whether the at least one end device is locked (Freitas; Figure 4 Item 407, Col 7 Lines 38 – 45), and, responsive to the at least one end device not being locked, locks the at least one end device (Freitas; Figure 4

Items 408 and 410, Col 7 Lines 38 – 45, Col 8 Lines 1 – 12) and performs the device access operation (Freitas; Figure 4 Item 412).

Freitas does not teach wherein the adaptor is a device driver layer, the host is an application included in an application layer, and the device driver layer includes a wrapper layer and device driver that is in communication with the end device utilizing the bus.

However, Burd teaches a computer architecture and operating system where an application program (host) must use a device driver in a kernel layer (device driver layer) to access a hardware device (Burd; Figure 3-7; Pages 73 – 74 "Operating System Model and Functions"). The device driver is contained in a kernel layer and is used to interface with the hardware device (Burd; Pages 76 – 77 "Kernel"). The kernel layer also includes a resource allocation layer (wrapper layer) that is responsible for allocating access to devices (Burd; Page 76 Figure 3-8, Pages 77 – 78 "Resource Allocation").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Freitas to include the application, device driver, and wrapper layers because using the layers allows for a degree of modularity and hardware independence (Burd; Pages 76 – 77 "Kernel").

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Art Unit 2181

Supervisory

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5/19/2006

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